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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/688,268 | 10/13/2000 | J. Bruce Mixer JR. | BLD9-2000-0058US1 | 9896 |
| 7590 | 10/05/2004 | | EXAMINER | |
| Harry F Smith Esq Ohlandt Greeley Ruggiero & Perle LLP One Landmark Square 9th Floor Stamford, CT 06901-2682 | | | | RUTTEN, JAMES D |
| | | ART UNIT | | PAPER NUMBER |
| | | 2122 | | |

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | |
|------------------------------|-----------------|-----------------|
| Office Action Summary | Application No. | Applicant(s) |
| | 09/688,268 | MIXER, J. BRUCE |
| | Examiner | Art Unit |
| | J. Derek Ruttan | 2122 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 09 August 2004.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 38,39,41-61,63-71 and 73-75 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 38,39,41-52,57-61,63-65,70,71 and 73-75 is/are rejected.
- 7) Claim(s) 53-56 and 66-69 is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 13 October 2000 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

| | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

DETAILED ACTION

1. Acknowledgement is made of Applicant's Request for Continued Examination dated August 9, 2004 and recognizes Applicant's amendment dated May 12, 2004, responding to the February 10, 2004 Office Action provided in the rejection of claims 38-52, 57-65, and 70-74, wherein claims 38, 39, 43-46, 48, 50, 57-61, 63-71, 73, and 74 have been amended, claims 40, 62, and 72 have been canceled, and new claim 75 has been added. Claims 38, 39, 41-61, 63-71, and 73-75 remain pending in the application and have been fully considered by the examiner.

Response to Arguments

2. Regarding claim 38 as discussed at the bottom of page 11 of the amendment, applicant argues that Kopsaftis requires "back-and-forth" commands. Presumably, this is to contrast the claim language that specifies inputting a print job file to a printer in a "unidirectional fashion". However, this limitation is not supported by the specification, as pointed out under the *Claim Rejections - 35 USC § 112* section below. Applicant further argues that Bluethman does not disclose any microcode update. However, this limitation was not relied upon from Bluethman, but is provided by Kopsaftis.

3. With respect to claim 39, applicant argues that Kopsaftis does not teach a header portion of a print job file (page 12). This argument is convincing. However, upon further review, a new rejection is made in view of Gauronski, below.

4. With respect to claim 44, applicant argues that Kopsaftis requires restarting the peripheral device in contrast to the language of amended claim 44. However, this limitation is not

supported by the specification, as pointed out under the *Claim Rejections - 35 USC § 112* section below.

5. With respect to claim 45, while applicant's arguments (bottom of page 13 – top of page 14) regarding the differences between the invention and Gauronski are convincing (i.e., applicant's invention does not pertain to an interruption of a print job as in Gauronski), broad interpretation of the claim language nevertheless renders the claim obvious in view of Gauronski. Gauronski's printer runs code to print a first job, is interrupted, and then returns to this previously running program that was in existence before the interruption.

6. With respect to claim 46, applicant's arguments (bottom of page 12 – top of page 13) are convincing. However, new interpretation is made in light of the amended claim, and is detailed in the rejection of the claim below.

7. With respect to claims 51 and 64, applicant argues (page 14) that Williams decompresses data elements in a message body, not modules including microcode. However, Williams is not relied upon for the structure of the message, merely for the teaching of a message header utilized to identify and decompress elements of the message body. In the current case, William's message body contents are provided by Kopsaftis' modules.

8. With respect to claim 61, applicant argues (bottom of page 14 – top of page 15) that Misunas merely teaches instructions for recognizing the structure of a packet, and does not teach a bit pattern that indicates a module for immediate execution. This argument is convincing. However, a new grounds of rejection is made below.

Drawings

9. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "G" in FIGURE 8 has been used to designate both "Erase volatile memory..." and "Current microcode resumes control...". Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

10. Character "H" in FIGURE 8 has been used to designate both "Download first module..." and "Receive the remainder...". Corrected drawing sheets are required as pointed out above.

11. The problems with the drawings above are related to missing references in the specification to reference characters "J" and "K" (page 10 lines 21 and 27) in FIGURE 8. Correction is required.

Claim Rejections - 35 USC § 112

12. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

13. Claims 38-75 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claims 38, 57, and 70 contain amended subject matter including inputting a print job file to a printer in a unidirectional fashion. The amendment does not particularly point out where each newly amended limitation is described in the specification. Further, review of the originally filed specification did not reveal any discussion of inputting in a unidirectional fashion. All dependent claims are rejected as being dependent upon rejected base claims.

14. Claim 44 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 44 recites “without resetting or restarting or restarting any processor in said printer.” Support for this limitation has not been particularly pointed out in the specification. In contrast, the specification clearly states that rebooting is required after the step of writing (page 10 line 6, page 10 line 26, and page 11 line 5). There is no description in the specification regarding transferring execution without restarting any processor. Claims 45-49 are rejected as being dependent upon a rejected base claim.

15. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

16. Claims 38-75 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

17. The term "specialized" in line 6 of claim 38 is a relative term which renders the claim indefinite. Claims 57 and 70 also use this term in a similar manner as claim 38. The term is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. As no other recitation of hardware appears in the claim, it is not clear what type of hardware or software would qualify as being specialized. All dependent claims are rejected as being dependent upon rejected base claims.

18. Claim 39 recites, "indicated by a bit pattern in a header portion of said print job file, not in any job data". However, a header portion of a print job file is part of a "job data". It is not clear how a header can be part of a print job file without being part of any job data.

Claim Rejections - 35 USC § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20. Claims 38, 39, 41-44, 46, 47, 50, 52, 57-60, 64, 65 and 70 rejected under 35 U.S.C.

103(a) as being unpatentable over U.S. Patent 4,095,277 to Bluethman et al. (hereinafter "Bluethman"), in view of U.S. Patent 5,659,801 to Kopsaftis (hereinafter "Kopsaftis").

As per claim 38, Bluethman discloses:

A method (column 8 line 57 – column 9 line 32) for updating microcode of a printer comprising the steps of:
embedding commands in a print job file(column 4 lines 63-67 and column 5 lines 1-9), said module being one of a plurality of modules in said print job file (column 4 line 63 – column 5 line 9 shows a print job with several modules: The first module is a "PRINT" module, the second is "MODIFY", etc.);

inputting said print job file to said printer, over at least one printer job interface (column 5 lines 10-11; also Figure 2), in a unidirectional fashion (column 4 lines 27-46 discloses a process of submitting control and data cards which make up a print job, and are submitted in a unidirectional fashion);

recognizing that said print job file includes said commands(column 3 line 67 – column 4 line 5).

Bluethman further teaches the ability of modify a current job with new values (column 3 line 67 – column 4 line 5).

Bluethman does not expressly disclose embedding a microcode update as a module, or writing the file to a memory area in the printer.

However, in an analogous environment, Kopsafkis teaches updating the microcode of a printer by sending the microcode to a printer (Column 15, lines 29-38) and writing the microcode to memory (Figure 3, item 236). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to embed commands for controlling a printer in a print job file, inputting the job to the printer, modifying the print job, and recognizing that the print job contains commands for controlling the printer as disclosed by Bluethman, where the update commands are microcode updates to be written to the printer memory, as taught by Kopsafkis, since this allows easy updating of printer microcode without need for the printer to use additional software or hardware.

Claims 57 and 70 correspond directly with Claim 1 and are rejected for the same reasons as Claim 1.

As per claim 39, Bluethman discloses: *wherein said step of recognizing includes interrogating a file header of said print job file wherein a presence of said microcode update in said print job file is indicated by a bit pattern in a header portion of said print job file* (Digital equipment inherently contains bit patterns in all data. Bluethman discloses module headers that describe further processing in column 3 line 66 – column 4 line 10).

In regard to Claim 41, Kopsafkis teaches writing the microcode to a volatile memory area (Column 5, lines 33-35).

In regard to Claim 42, Kopsafkis teaches writing the microcode to a non-volatile memory area (Figure 3, item 236).

As per claim 43, Kopsafkis teaches that the microcode is an executable program (column 1 lines 16-17). Further, Kopsafkis teaches: *said executable program being machine language code executable by a processor in said printer* (Executable programs inherently consist of machine language code, since processors can only execute machine language.).

As per claim 44, Kopsafkis teaches: *after said step of writing, the step of transferring execution to said executable program* (column 10 lines 37-40).

As per claim 46, the above rejection of claim 44 is incorporated. Kopsafkis further teaches: *wherein said step of transferring comprises loading said executable programs upon receipt of said executable program, said executable program being a portion of said print job file* (column 6 lines 44-47).

In regard to Claim 47, the examiner takes official notice that loading a program into memory is an obvious step in executing the program.

In regard to Claim 50, Bluethman teaches a module with a header and module data (column 4 line 63 – column 5 line 9 as cited in the rejection of claim 1 above).

In regard to Claim 52, Kopsafkis teaches a bit for specifying the destination of the module (Column 5, lines 15-17).

Claim 58 is rejected for the same reasons as set forth in the above rejection of claim 39.

As per claim 59, the above rejection of claim 57 is incorporated. Bluethman's module data provides specific commands and provides for the claimed "module body" as cited in the above rejection of claim 50.

As per claim 60, the above rejection of claim 58 is incorporated. Kopsafkis teaches addressing in the header a destination printer (Column 5, lines 7-10).

As per claims 64 and 65, the above rejection of claim 59 is incorporated. All further limitations have been addressed in the above rejection of claims 51 and 52, respectively.

21. Claim 45 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bluethman and Kopsaftis in view of U.S. Patent 5,206,735 to Gauronski et al. (hereinafter "Gauronski").

In regard to Claim 45, Bluethman and Kopsafkis teach the method of Claim 44, but do not teach resuming execution of a previously running program after transferring execution to the executable program. Gauronski, however, does teach resuming execution of a previously running print job that was previously in existence after a print job is interrupted (Column 7, lines 38-46). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Claim 45, as taught by Bluethman and Kopsafkis, where a previously running program resumes execution after transferring execution to the executable program, since this allows uninterrupted service from the printer and no loss of print jobs.

22. Claims 51 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bluethman and Kopsaftis as applied to claim 50 above, further in view of U.S. Patent 4,868,866 to Williams, Jr. (hereinafter "Williams").

In regard to Claim 51, Bluethman and Kopsafkis teach the method of Claim 50, but do not teach that the module header comprises a bit pattern that directs a processor to uncompress a module. Williams, however, does disclose a bit pattern in a file header, which instructs a processor to decompress file data (Column 15, lines 53-56). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to perform the method of Claim 51, as taught by Bluethman and Kopsafkis, where a bit pattern in a file header instructs a processor to decompress file data, as taught by

Williams, since this allows a file to be compressed and decompressed without separate instructions or machinery.

As per claim 75, the above rejection of claim 50 is incorporated. Further, Williams teaches decompressing file data as pointed out in the above rejection of claim 51. Compressibility is thus inherent since data must first be compressed if it is to be decompressed.

23. Claims 48, 49, 61, 63, 71, 73, and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bluethman and Kopsafkis as applied to claim 1 above, and further in view of U.S. Patent 5,649,112 to Yeager et al. (hereinafter "Yeager").

As per claim 48, the above rejection of claim 44 is incorporated. Bluethman and Kopsafkis do not expressly disclose the executable program acting as microcode to download other modules, said program having been downloaded.

However, in an analogous environment, Yeager teaches updating microcode on a module by module basis while the rest of the microcode executes (column 4 lines 20-27). Once updated, this module is relinked to the rest of the microcode and immediately executed. Since the code to download is itself a module, it would be obvious to one of ordinary skill to update a download module that would download further module updates. One would be motivated to provide a high availability system that does not require down time for a software update.

In regard to Claim 49, the above rejection of claim 48 is incorporated. Further, the examiner takes official notice that a pointer is a well-known method for a program to reference objects that it might need during execution.

As per claim 61, the above rejection of claim 58 is incorporated. All further limitations have been addressed in the above rejection of claim 48.

As per claim 63, the above rejection of claim 61 is incorporated. All further limitations have been addressed in the above rejection of claim 48.

As per claim 71, the above rejection of claim 70 is incorporated. Further, Kopsafkis provides a microcode update including an executable program (see the rejection of claim 43 above). Bluethman and Kopsafkis do not expressly disclose an executable program that is immediately executable before receiving the rest of the print job file.

However, in an analogous environment, Yeager teaches updating microcode on a module by module basis while the rest of microcode executes (column 4 lines 20-27). This means that one module can be updated while the rest of the code executes and once updated can be executed by the processor. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Yeager's teaching of modular microcode updates in Kopsafkis' microcode. One of ordinary skill would have been

motivated to provide a highly available system that can provide service while performing update maintenance.

As per claim 73, all limitations have been addressed in the above rejection of claim 71.

As per claim 74, the above rejection of claim 71 is incorporated. All further limitations have been addressed in the above rejection of claim 39.

Allowable Subject Matter

24. Claims 53-56 and 66-69 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

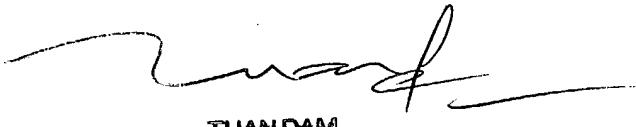
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. Derek Rutten whose telephone number is (703) 605-5233. The examiner can normally be reached on M-F 6:30-3:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tuan Q. Dam can be reached on (703) 305-4552. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. After October 28, 2004, the examiner can be reached at new

telephone number (571) 272- 3703, and the examiner's supervisor, Tuan Q. Dam can be reached at (571) 272-3694

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jdr



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